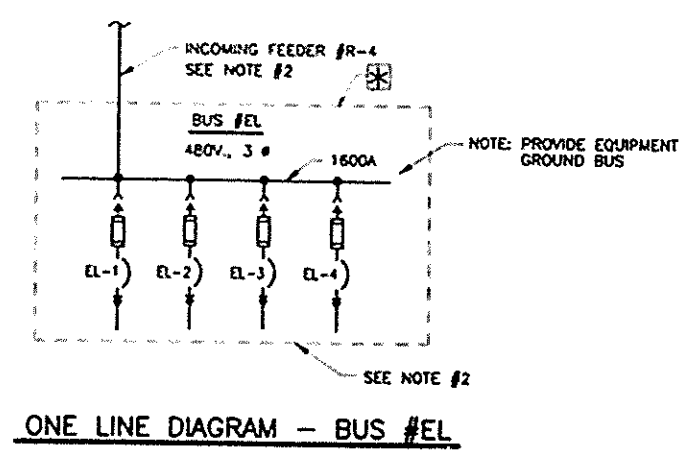


SUBSTATION	FEEDER NUMBER AT:				FOR DETAIL SEE DRAWING NO.
	HV-B1	HV-B2	HV-B3	HV-B4	
SS-41N	#PF-A1B	#PF-A2B	#PF-A3B	#PF-A4B	E-11
SS-41S	#PF-A5B	#PF-A6B	#PF-A7B	#PF-A8B	E-25
SS-75N	#PF-A1C	#PF-A2C	#PF-A3C	#PF-A4C	E-39
SS-75S	#PF-A5C	#PF-A6C	#PF-A7C	#PF-A8C	E-53
SS-75W	#PF-B1C	#PF-B2C	#PF-B3C	#PF-B4C	E-68
SS-75E	#PF-B5C	#PF-B6C	#PF-B7C	#PF-B8C	E-83

- NOTES**
- FOR LEGEND SEE DRAWING E-1, FOR GENERAL NOTES AND ABBREVIATIONS SEE DRAWING E-2.
 - FOR INDIVIDUAL SUBSTATION DETAILS, COMPLETE DESIGNATIONS, QUANTITY, AND SIZE OF CIRCUIT BREAKERS SEE DRAWINGS E-12, E-26, E-40, E-54, E-69 & E-84.
 - THE EQUIPMENT SHOWN WITH AN * ASTERISK AND DESCRIBED IN SCHEDULE "A", WILL BE FURNISHED BY THE AUTHORITY UNDER CONTRACT #WTC-802.072A. SEE SPECIFICATION DIVISION 1 ENTITLED, "MATERIALS FURNISHED BY THE AUTHORITY". THE CONTRACTOR SHALL ACCEPT AND INSTALL THE ABOVE MENTIONED EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR TERMINATION OF ALL CABLE AND BUSWAYS WITHIN THE SWITCHGEAR. MANUFACTURERS SHOP DRAWINGS WILL BE PROVIDED TO THE CONTRACTOR PRIOR TO CONSTRUCTION. ALL OTHER EQUIPMENT IS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.



ONE LINE DIAGRAM - BUS #EL

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS, CONSTITUTING A PART OF CONTRACT NO. #WTC-802.071 IN THE TOWER IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

DATE 6/21/95 *Sanjiv A. Aslam* SPEC. WRITER
DATE 8/15/95 *Peter K. Lweeney* ENGINEER OF DESIGN

SCHEDULE "A" - EQUIPMENT FURNISHED BY AUTHORITY										(SEE NOTE #3)												
LOCATION			DESIGNATION	EQUIPMENT DESCRIPTION AND QUANTITIES																		
				HW-B (MEDIUM VOLTAGE) (13.8KV - SWGR SECT.)	G&T (13.8KV GND. & TEST DEVICE)	WTR (13.8 - 48 KV DRY TYPE VPI DIST. XFEAR SWGR SECT.)	N (4000A MAIN FUSED AIR CKT BKR SWGR SECT.)	T (4000A TIE FUSED AIR CKT BKR SWGR SECT.)	4000A 600V BUSWAY SYSTEM	NO.	AIR CKT. BKRS.			LOW VOLTAGE FEEDER SWITCHGEAR SECTIONS		LOCAL CONTROL CABINET	UPS - (UNINTERRUPTIBLE POWER SUPPLY)	13.8KV MEDIUM VOLTAGE SWGR CIRCUIT BREAKER	4000A MAIN AIR CIRCUIT BREAKER	5000A FUSE CARRIAGE ASSEMBLY (FOR MAIN AIR CKT BKR)	4000A TIE AIR CIRCUIT BREAKER	5000A FUSE CARRIAGE ASSEMBLY (FOR TIE AIR CKT BKR)
TOWER ONE	41st FLOOR	NORTH	SS-41N	4	1	4	4	4	2	B1 THRU B4	2	12	7	1	1	-	-	-	-	-	-	-
		SOUTH	SS-41S	4	1	4	4	4	2	B1 THRU B4	3	12	8	1	1	-	-	-	-	-	-	-
	75th FLOOR	NORTH	SS-75N	4	1	4	4	4	2	B1 THRU B4	2	12	6	1	1	-	-	-	-	-	-	-
		SOUTH	SS-75S	4	1	4	4	4	2	B1 THRU B4	2	12	8	1	1	-	-	-	-	-	-	-
TOWER TWO	75th FLOOR	WEST	SS-75W	4	1	4	4	4	2	B1 THRU B4	2	14	7	1	1	-	-	-	-	-	-	-
		EAST	SS-75E	4	1	4	4	4	2	B1 THRU B4	2	14	6	1	1	-	-	-	-	-	-	-
		SPARE	-	-	1	-	-	2	---	-	-	-	-	-	2	2	2	2	2	2	2	6
TOTAL				24	6	25	24	24	14	---	13	78	68	6	8	2	2	2	2	2	2	6



THE PORT AUTHORITY OF NY & NJ

Peter K. Lweeney
ENGINEERING PROGRAM MANAGER
WORLD TRADE CENTER
Sanjiv A. Aslam
CHIEF ELECTRICAL ENGINEER

Engineering Department
Design Division
The World Trade Center
Electrical/HVAC
Upgrade Program

TOWER ONE AND TWO
LOW VOLTAGE
SUBSTATIONS
CONSTRUCTION AND
INSTALLATION

ELECTRICAL

TYPICAL SUBSTATION
ONE LINE DIAGRAM

No. Date Revision Approved

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LEAHY/FISCHER LEAHY A.S.
Designed by Drawn by Checked by
Date 5-1-95 Scale AS NOTED
Contract Number Drawing Number
WTC 802.071 E-3